

spline



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INTRODUCING SPLINE

Spline is the world's largest producer of spline gauges and master gears - a position of authority based on absolute specification and supreme quality.



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GO AND NOGO SPLINE PLUG GAUGES



Profiles:- Involute, Serration, Parallel (straight or helical)

Conform to any of the following standards:-
 ISO (International)
 DIN (Germany)
 ANSI / AGMA (American)
 JIS (Japanese)

Range:-

Max. diameter	500mm
Min. diameter	5mm
Max. number of teeth	500
Max. pitch	25.4 module
Min. pitch	0.1 module
Max. tooth length	300

Typical Tolerances:-

Profile	0.005mm
Total Spacing	0.005mm
Runout	0.005mm
Tooth Alignment	0.0025mm
Tooth Thickness	0.005mm



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Conform to any of the following standards:-

ISO (International)

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JIS (Japanese)

Range:-

Max. diameter	500mm
Min. diameter	5mm
Max. number of teeth	500
Max. pitch	25.4 module
Min. pitch	0.1 module
Max. tooth length	150

Typical Tolerances:-

Profile	0.005mm
Total Spacing	0.005mm
Runout	0.005mm
Tooth Alignment	0.0025mm
Space Width	0.005mm



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SPUR AND HELICAL MASTER GEAR



Conform to any of the following standards:-

ISO (International)
DIN (Germany)
AGMA (American)
JIS (Japanese)

Range:-

Max. diameter	300mm
Min. diameter	6mm
Max. number of teeth	550
Max. pitch	25.4 module
Min. pitch	0.1 module
Max. tooth length	150

Typical Tolerances:-

Total Profile	0.003mm
Adjacent Pitch Error	0.0025mm
Total Pitch Error	0.009mm
Total Tooth Alignment Error	0.0025mm
Radial Runout	0.005mm



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GO SPLINE RING GAUGE AND TAPER MASTER PLUG



Taper tooth master plugs with fit and wear lines are used to monitor the wear of ring gauges during component manufacture. The ring gauge is ground to fit the master plug for original and replacement ring gauges.



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VARIABLE SPLINE INDICATOR RING GAUGE WITH SETTING MASTER PLUG

For measuring component effective tooth thickness.*



Can be supplied with analogue or digital indicators. Alternatively, a transducer port can be incorporated for SPC type analysis on PC.

* Spline indicators having 2 opposite sectors of teeth can be supplied for measuring actual tooth thickness.



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VARIABLE SPLINE INDICATOR RING GAUGE WITH SETTING MASTER PLUG

For measuring component effective tooth thickness.*



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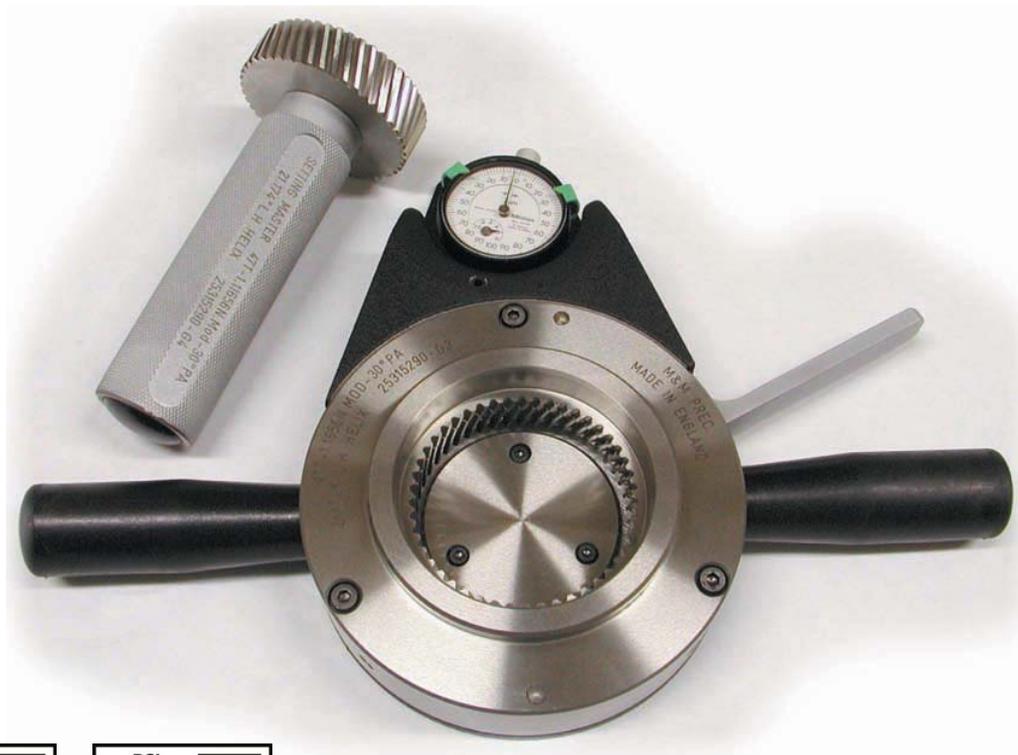


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HELICAL VARIABLE SPLINE INDICATOR RING GAUGE WITH SETTING MASTER PLUG

For measuring component effective tooth thickness.*



Can be supplied with analogue or digital indicators. Alternatively, a transducer port can be incorporated for SPC type analysis on PC.

* Spline indicators having 2 opposite sectors of teeth can be supplied for measuring actual tooth thickness.



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HELICAL VARIABLE SPLINE INDICATOR PLUG GAUGE WITH SETTING MASTER PLUG

For measuring component effective tooth thickness.*



Can be supplied with analogue or digital indicators. Alternatively, a transducer port can be incorporated for SPC type analysis on PC.

* Spline indicators having 2 opposite sectors of teeth can be supplied for measuring actual tooth thickness.



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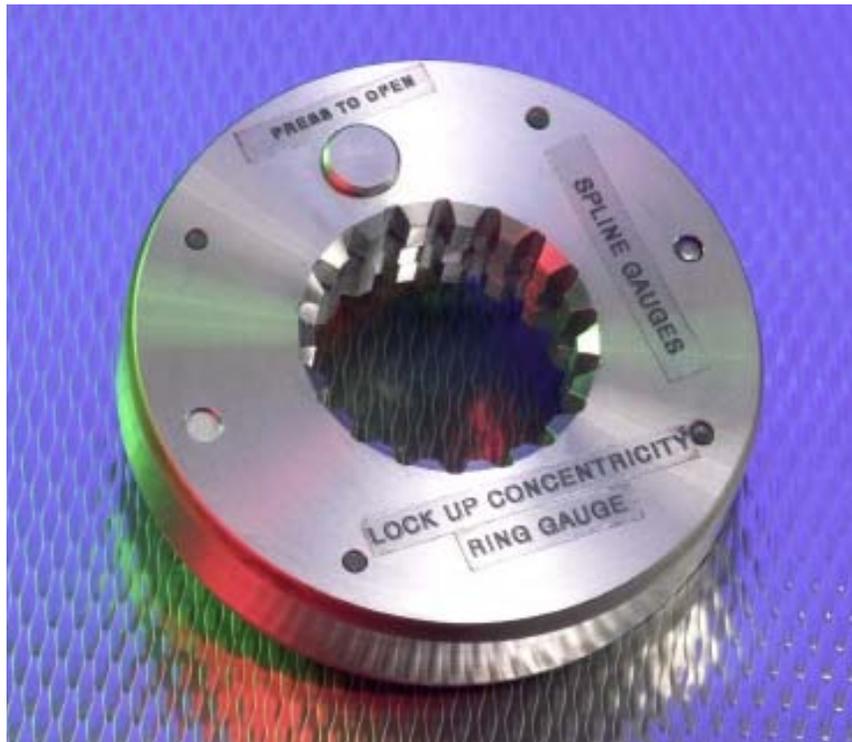
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SPLINED LOCK UP CONCENTRICITY RING GAUGE



The component is mounted on centres whilst the concentricity ring is clamped onto it.

The outside diameter of the concentricity ring is concentric to the pitch circle diameter, hence with the aid of a runout checking device i.e. dial indicators or transducers, inspection of the component datum faces or diameters can be carried out.

Range :-

Max. diameter	300mm
Min. diameter	10mm
Max. tooth length of component	300mm

Concentricity tolerance between outside diameter and spline pitch circle diameter is 0.005mm



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ROTALOCK MANDREL



Machine face plate mounted mandrel.

Used for the clamping of splined components. This particular type is suitable for side fitting splines. Clamping is on spline flanks.

Function:-
Grinding, Turning.



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EXPANDING KEY TYPE MANDREL



Used for the clamping of splined components. Expanding keys make this type of mandrel suitable for major diameter fitting splines.

Function:-
Grinding, Turning.

Machine face plate mounted mandrel using machine drawbar to actuate.



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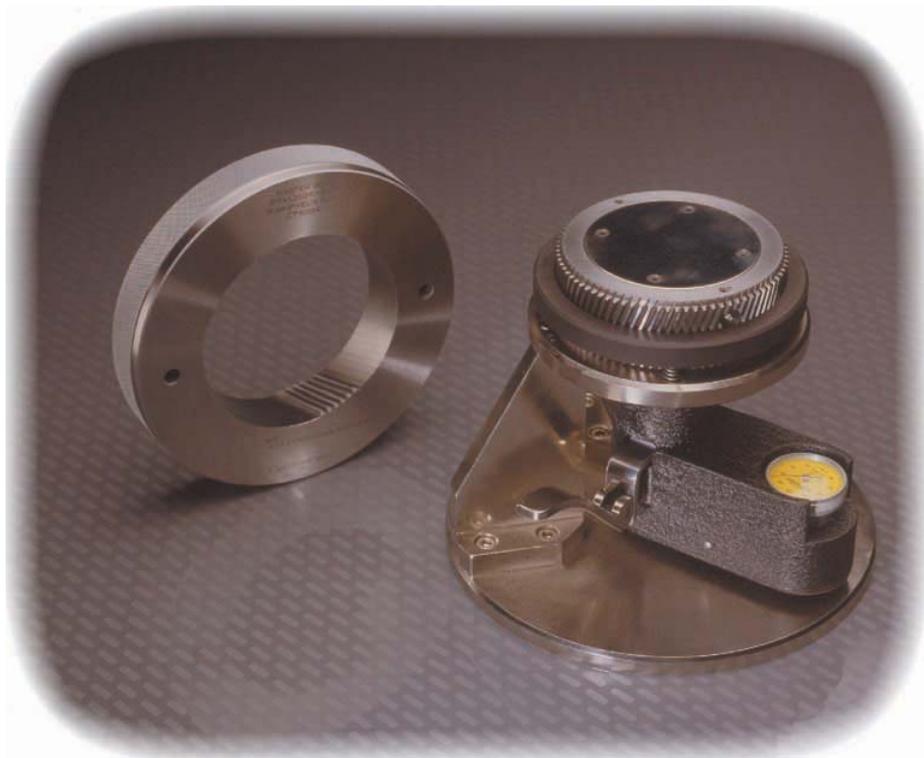
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HELICAL SPLINE FIXTURE GAUGE AND SETTING RING



Function:-
Measurement between balls of an internal helical splined component.



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TAPERED AND HELICAL SPLINED MANDRELS



Principle:-

Tapered splines (involute or serrated) to allow the pitch line location of component internal splines.

Tooth thickness taper accomodates full spread of part space width tolerance.

Application:-

Rotate on centres to allow runout inspection of component datum faces or diameters.

Range:-

Max. diameter 300mm

Min. diameter 6mm



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HELICAL INTERNAL MASTER COMPONENT REPLICA



Conform to any of the following standards:-

ISO (International)
DIN (Germany)
AGMA (American)
JIS (Japanese)

Range:-

Max. diameter	300mm
Min. diameter	6mm
Max. number of teeth	550
Max. pitch	25.4 module
Min. pitch	0.1 module
Max. tooth length	75

Typical Tolerances:-

Cylindricity of Outside diameter	0.005mm
End Face Parallelism	0.002mm
Runout of Outside diameter to Pitch diameter of teeth	0.010mm
Total Profile	0.003mm
Adjacent Pitch Error	0.0025mm
Total Pitch Error	0.009mm
Total Tooth Alignment Error	0.0025mm



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GEAR ARTEFACT



Function:-

Highly accurate lead and involute artefact for verification and calibration of gear testing machines.



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MASTER WORM GEARS



Typical Tolerances:-

Total Profile	0.003mm
Pitch Error	0.0025mm
Radial Runout	0.005mm



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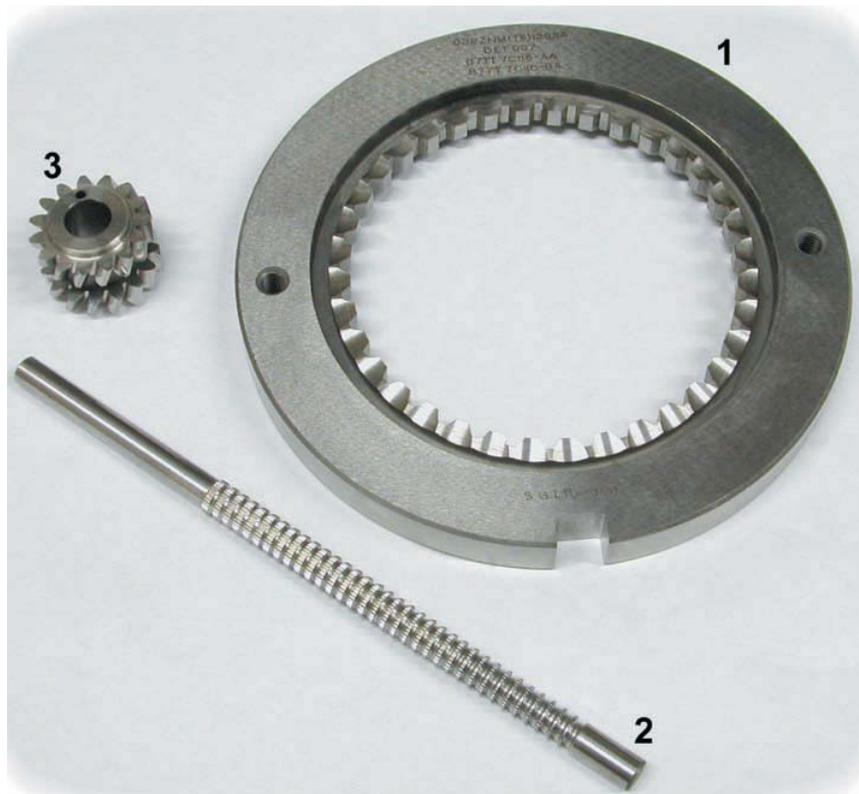
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SPLINE SIZING TOOLS



1. Broaching ring for sizing involute or serrated splines.
2. Male 'push broach' for cutting fine internal splines.
3. De-burring cutter for removing burrs / fraise on external splines.



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HELICAL SPLINED ELECTRODE IN COPPER

Function:-
Spark erosion of helical
internal profiles.



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